

**TRIS(DIMETHYLAMINO)ARSINE**

Safety Data Sheet OMAS080

Date of issue: 20/08/2015 Version: 1.0

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form	: Substance
Physical state	: Liquid
Substance name	: TRIS(DIMETHYLAMINO)ARSINE
Product code	: OMAS080
Formula	: C6H18AsN3
Synonyms	: HEXAMETHYLARSENOSTRIAMIDE
Chemical family	: ARSENIC COMPOUND

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet****GELEST, INC.**11 East Steel Road  
Morrisville, PA 19067**USA**

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)**GELEST INC.**Fritz-Klatte-Strasse 8  
65933 Frankfurt**Germany**

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://www.gelestde.com)**1.4. Emergency telephone number**

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids, Category 3	H226
Acute toxicity (oral), Category 3	H301
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Full text of H statements : see section 16	

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS02



GHS06

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Signal word (CLP)	: Danger
Hazard statements (CLP)	: H226 - Flammable liquid and vapour. H301 - Toxic if swallowed. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 - Ground/bond container and receiving equipment. P264 - Wash hands thoroughly after handling. P330 - Rinse mouth. P301+P310 - IF SWALLOWED: Immediately call a doctor.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Mono-constituent
Name	: TRIS(DIMETHYLAMINO)ARSINE
CAS-No.	: 6596-96-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tris(dimethylamino)arsine	(CAS-No.) 6596-96-9	> 95	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label. Call a POISON CENTER/doctor.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Wash with plenty of water/.... Get immediate medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases the vomitus and stools are bloody and the victim goes into shock with weak rapid pulse, cold sweats, coma and death.
Chronic symptoms	: Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: Water.

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### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour. Toxic fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Utilizing full life-protection procedures for skin and inhalation hazard. Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Do not allow contact with water.

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Do not allow hydrolyzed solids to accumulate in work areas. Avoid contact with water. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up.

Incompatible materials : Water :

Storage area : Store in a well-ventilated place. Store away from heat.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Tris(dimethylamino)arsine (6596-96-9)

USA OSHA

OSHA PEL (TWA) (mg/m<sup>3</sup>)

0.5 mg/m<sup>3</sup> arsenic (organic compounds)

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### 8.2. Exposure controls

#### Appropriate engineering controls:

Provide local exhaust or general room ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles or face shield. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 207.15 g/mol
Colour	: Straw.
Odour	: Amine. fishy.
Odour threshold	: No data available
Refractive index	: 1.4848
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: -53 °C
Boiling point	: 55 °C @ 10 mm Hg
Flash point	: < 60 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: < 2 mm Hg @ 20 °C
Relative vapour density at 20 °C	: No data available
Relative density	: 1.1248
% Volatiles	: < 5 %
Solubility	: Reacts with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable.

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### 10.3. Possibility of hazardous reactions

Avoid contact with water. Material decomposes slowly in contact with air by reaction with water, liberating dimethylamine and arsenic oxides (arsenic acids).

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Water :

### 10.6. Hazardous decomposition products

Arsenic oxide (arsenic acid) fumes. Dimethylamine.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Toxic if swallowed.

#### TRIS(DIMETHYLAMINO)ARSINE (6596-96-9)

ATE CLP (oral)	105.263 mg/kg bodyweight
Toxicity information	48 mg/kg LD50 oral rat: This product is expected to form arsenic acids on ingestion.

#### Tris(dimethylamino)arsine (6596-96-9)

ATE CLP (oral)	100 mg/kg bodyweight
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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified Arsenic acids are reported human carcinogens. The related compound tris(dimethylamino)phosphine is a reported carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases the vomitus and stools are bloody and the victim goes into shock with weak rapid pulse, cold sweats, coma and death.
Chronic symptoms	: Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.
Reason for classification	: Expert judgment

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	: Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2929
UN-No. (IMDG)	: 2929
UN-No. (IATA)	: 2929
UN-No. (ADN)	: 2929
UN-No. (RID)	: 2929

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Toxic liquid, flammable, organic, n.o.s.
Proper Shipping Name (ADN)	: TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (TRIS(DIMETHYLAMINO)ARSINE), 6.1 (3), II, (D/E)
Transport document description (IMDG)	: UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (TRIS(DIMETHYLAMINO)ARSINE), 6.1 (3), II
Transport document description (IATA)	: UN 2929 Toxic liquid, flammable, organic, n.o.s. (TRIS(DIMETHYLAMINO)ARSINE), 6.1, II
Transport document description (ADN)	: UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (TRIS(DIMETHYLAMINO)ARSINE), 6.1 (3), II
Transport document description (RID)	: UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (TRIS(DIMETHYLAMINO)ARSINE), 6.1 (3), II

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 6.1 (3)
Danger labels (ADR)	: 6.1, 3



##### IMDG

Transport hazard class(es) (IMDG)	: 6.1 (3)
Danger labels (IMDG)	: 6.1, 3



##### IATA

Transport hazard class(es) (IATA)	: 6.1 (3)
Hazard labels (IATA)	: 6.1, 3

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### ADN

Transport hazard class(es) (ADN) : 6.1 (3)

Danger labels (ADN) : 6.1, 3



### RID

Transport hazard class(es) (RID) : 6.1 (3)

Danger labels (RID) : 6.1, 3



### 14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : TF1

Special provisions (ADR) : 274

Limited quantities (ADR) : 100ml

Excepted quantities (ADR) : E4

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T11

Portable tank and bulk container special provisions (ADR) : TP2, TP27

Tank code (ADR) : L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Special provisions for carriage - Operation (ADR) : S2, S9, S19

Hazard identification number (Kemler No.) : 63

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Orange plates



Tunnel restriction code (ADR) : D/E

### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 100 ml  
Excepted quantities (IMDG) : E4  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T11  
Tank special provisions (IMDG) : TP2, TP13, TP27  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-D  
Stowage category (IMDG) : B  
Stowage and handling (IMDG) : SW2  
Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation.

### - Air transport

PCA Excepted quantities (IATA) : E4  
PCA Limited quantities (IATA) : Y641  
PCA limited quantity max net quantity (IATA) : 1L  
PCA packing instructions (IATA) : 654  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 662  
CAO max net quantity (IATA) : 60L  
Special provisions (IATA) : A4, A137  
ERG code (IATA) : 6F

### - Inland waterway transport

Classification code (ADN) : TF1  
Special provisions (ADN) : 274, 802  
Limited quantities (ADN) : 100 ml  
Excepted quantities (ADN) : E4  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP, EX, TOX, A  
Ventilation (ADN) : VE01, VE02  
Number of blue cones/lights (ADN) : 2

### - Rail transport

Classification code (RID) : TF1  
Special provisions (RID) : 274  
Limited quantities (RID) : 100ml  
Excepted quantities (RID) : E4  
Packing instructions (RID) : P001, IBC02  
Mixed packing provisions (RID) : MP15  
Portable tank and bulk container instructions (RID) : T11  
Portable tank and bulk container special provisions (RID) : TP2, TP27  
Tank codes for RID tanks (RID) : L4BH  
Special provisions for RID tanks (RID) : TU15  
Transport category (RID) : 2  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31  
Colis express (express parcels) (RID) : CE5  
Hazard identification number (RID) : 63



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### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

TRIS(DIMETHYLAMINO)ARSINE is not on the REACH Candidate List

TRIS(DIMETHYLAMINO)ARSINE is not on the REACH Annex XIV List

TRIS(DIMETHYLAMINO)ARSINE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

TRIS(DIMETHYLAMINO)ARSINE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : < 5 %

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

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H335	May cause respiratory irritation.
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SDS EU (REACH Annex II) - Custom

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